

2007 RESEARCH PROBLEM STATEMENT

Problem Title: Tire Noise on I-215 East

No.: 07.04-2

Submitted By: Jim McMinimee, Abdul Wakil and Doug Anderson

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Project Champion: Jerry Chaney

(UDOT or FHWA employee who needs this research done, will help the Research Division lead this project, and will spearhead the implementation of the results. If the project gets prioritized at the UTRAC conference, a Champion Commitment Form will be required before funding.)

1. Briefly describe the problem to be addressed.

A tire noise test section was placed on I-215 along the east bench a few years ago. Noise readings were taken adjacent to I-215 before and after diamond grinding of the surface. The grinding removed the transverse tinning in the concrete pavement to minimize tire "whine" and created a longitudinal texture. It would be useful to measure any changes in tire noise now that the longitudinal texture has worn down by traffic since the grinding operations took place.

2. Strategic Goal: ☒ Preservation ☐ Operation ☐ Capacity ☒ Safety (check all that apply)

3A. List the research objective(s) to be accomplished:

1. Determine if tire whine will return as the texture wears
2. Measure resistance to skidding with texture wear
3. Recommend tire whine policies for use

3B. List the major tasks to accomplish the research objective(s):

Estimated person-hours: 150

1. Conduct noise testing and traffic counts on the I-215 test section
2. Conduct skid tests on the section
3. Compare the data with previous readings and trends
4. Evaluate what policies are appropriate on pavements with tire whine

4. Estimate the cost of this research study including implementation effort (use person-hours from No. 3B): \$15,000

5. Indicate type of research and/or development project this is

Large: ☐ Research Project ☐ Development Project
Small: ☐ Research Evaluation ☒ Experimental Feature ☐ New Product Evaluation ☐ Tech Transfer Initiative
☐ Other: _____

(A small project is usually less than \$20,000 and shorter than 6 months)

6. Outline the proposed schedule (when do you need this done, and how will we get there):

Test during the summer of 2007 and evaluate results by October 2007.

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7. What type of entity is best suited to perform this project (University, Consultant, UDOT Staff, Other Agency, Other)?

Hire PB to conduct the noise study

8A. What deliverables would you like to receive at the end of this project? (e.g. useable technical product, design method, technique, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tool, etc.)

A brief report showing trend using data from the previous report will be published

8B. Describe how this project will be implemented at UDOT.

Recommend noise policies on PCC pavement

8C. Describe how UDOT will benefit from the implementation of this project, and who the beneficiaries will be.

We will know more about tire noise and when to use transverse tinning

9. Describe the expected risks and obstacles as well as the strategies to overcome them.

Traffic has increased in the corridor and may result in some errors in the reading

10A. List other people (UDOT and non-UDOT) who are willing to participate in the Technical Advisory Committee (TAC) for this study:

<u>Name</u>	<u>Organization / Division / Region</u>	<u>Phone</u>	<u>Email</u>
Doug Anderson	UDOT Research Division	801-965-4377	dianderson@utah.gov
Jerry Chaney	UDOT Environmental	801-965-4317	jchaney@utah.gov

10B. Identify other Utah, regional, or national agencies and other groups that may have an interest in supporting this study:

None